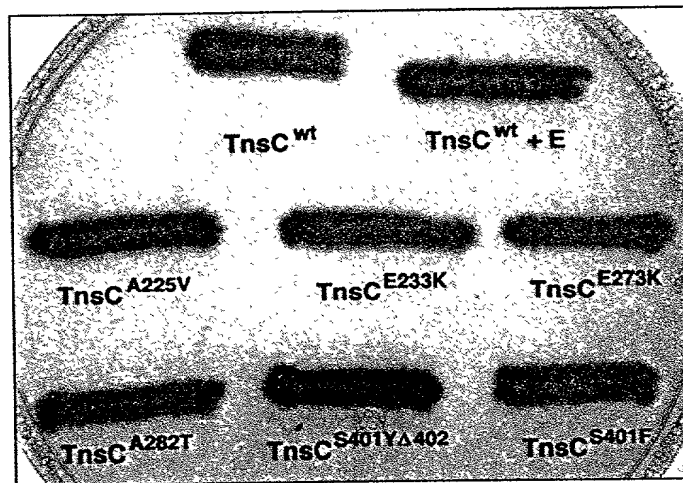


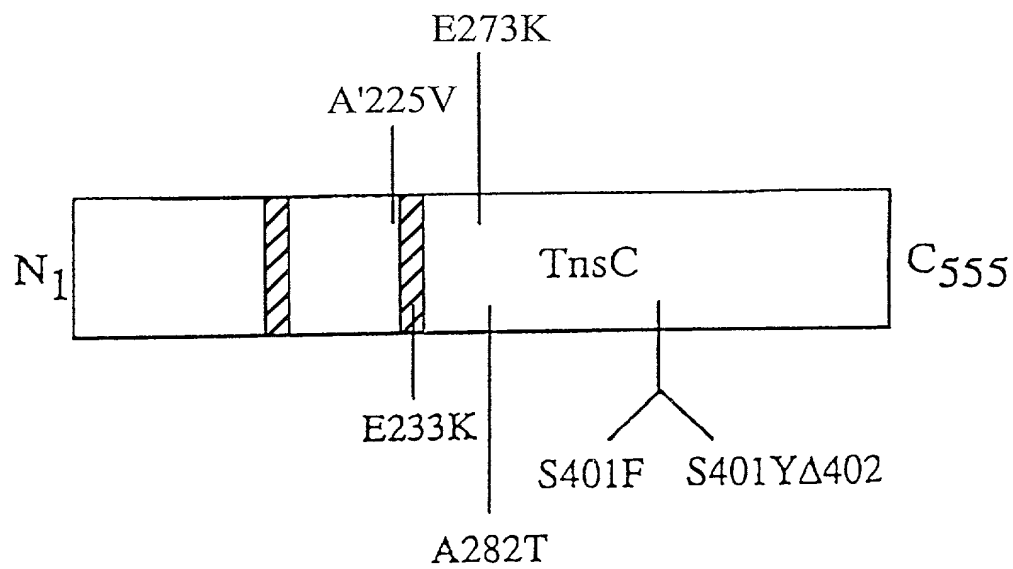
FIG. 1



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FIG. 2

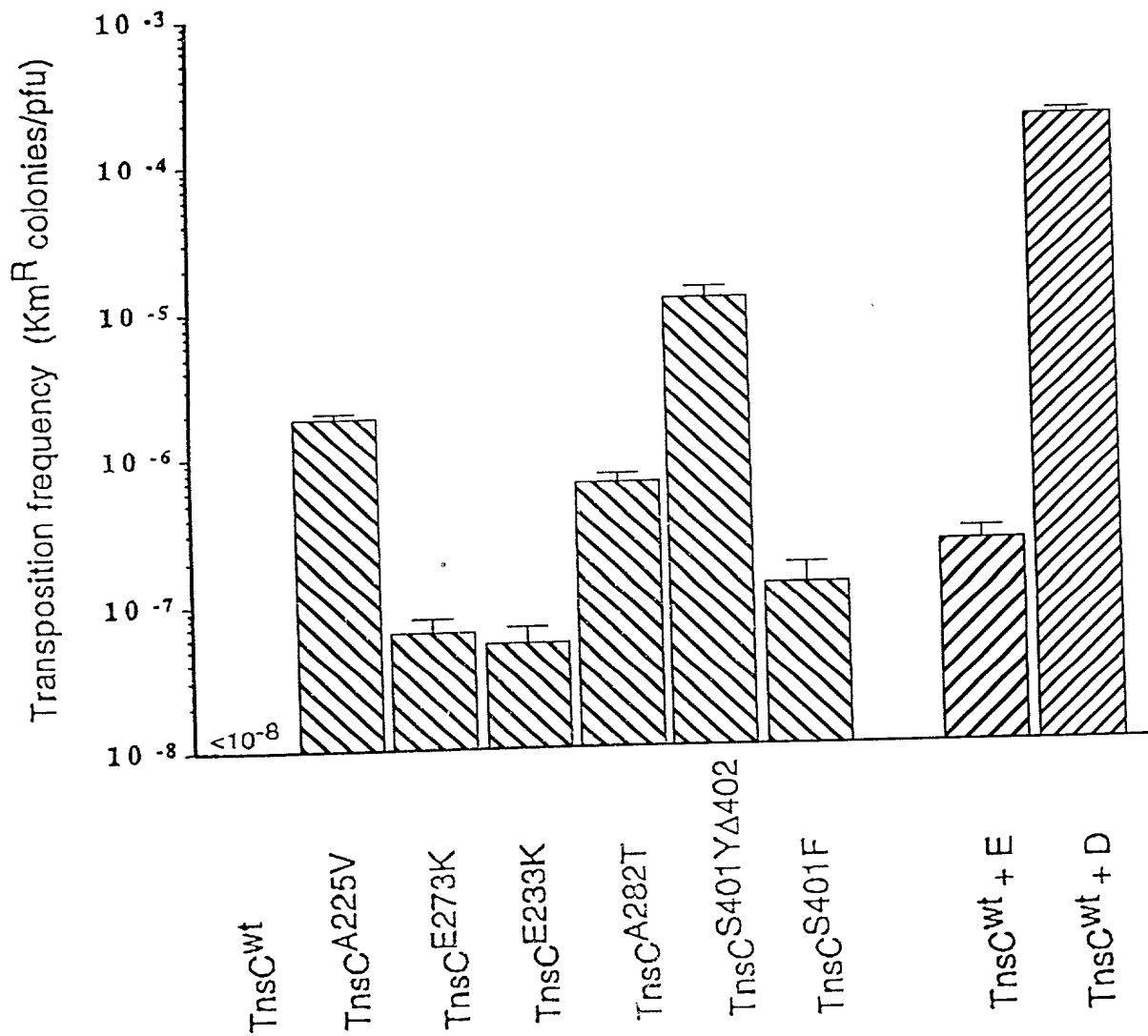
Class I TnsC mutants



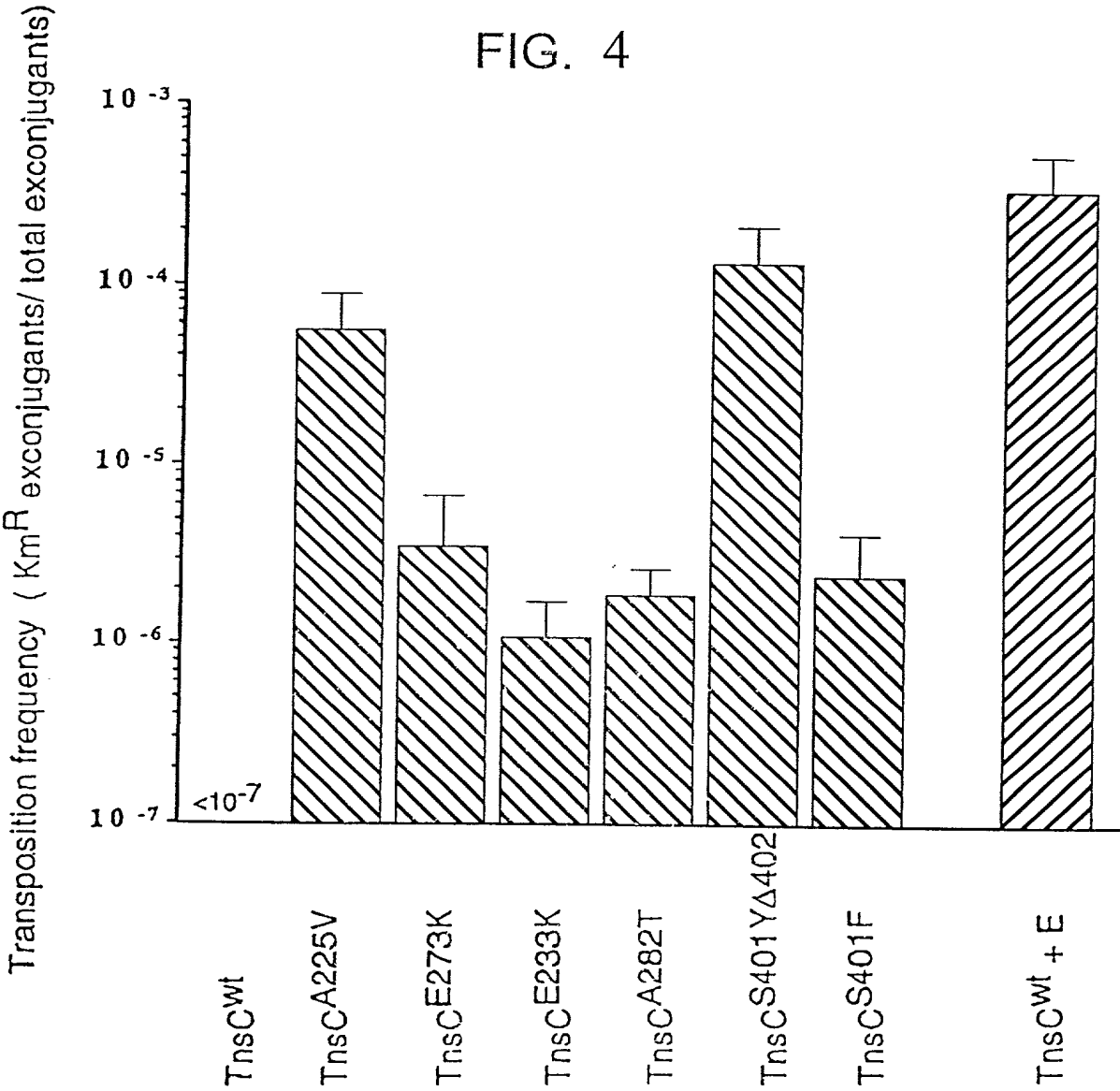
Class II TnsC mutants

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FIG. 3

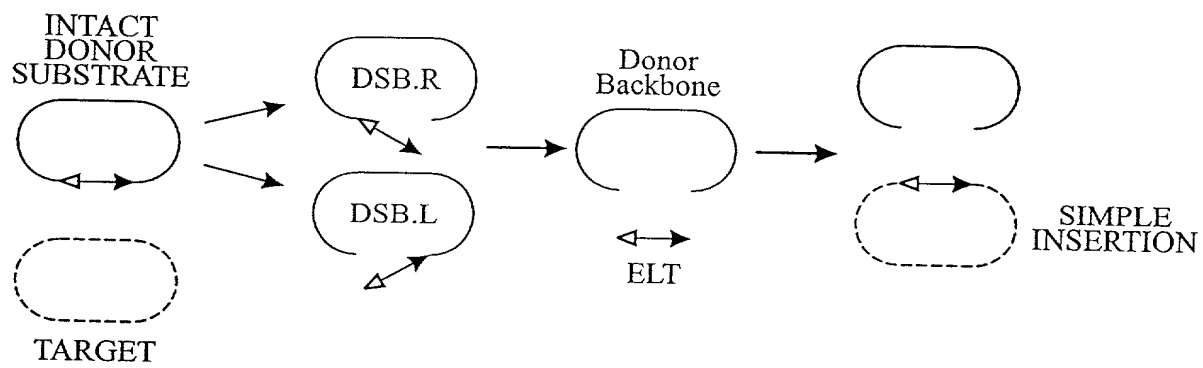


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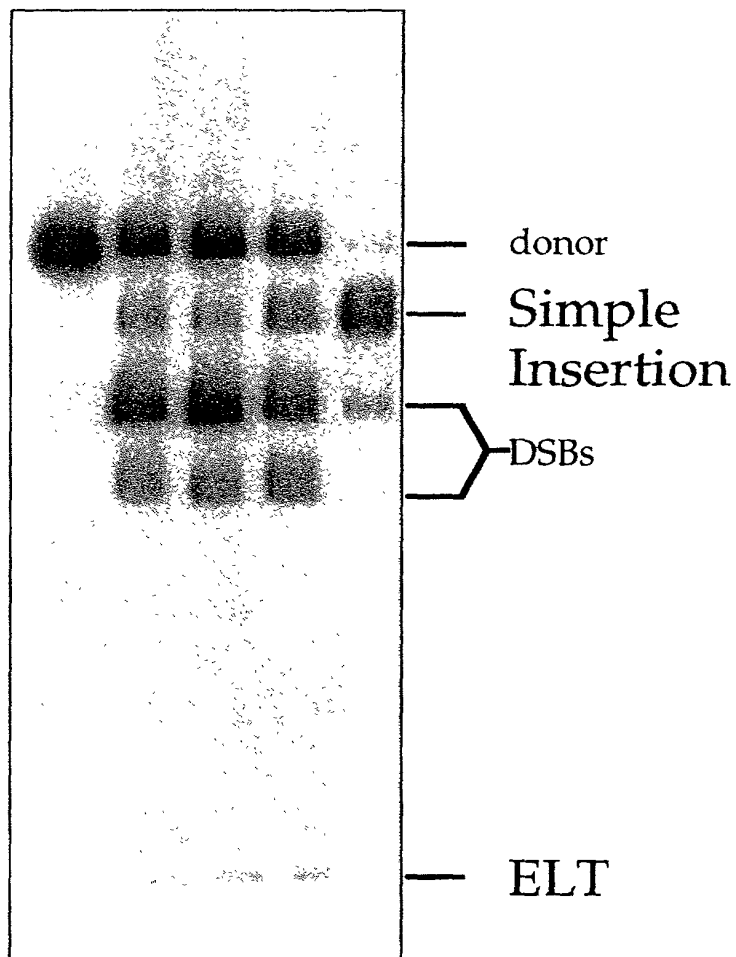
FIG. 5



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FIG. 6

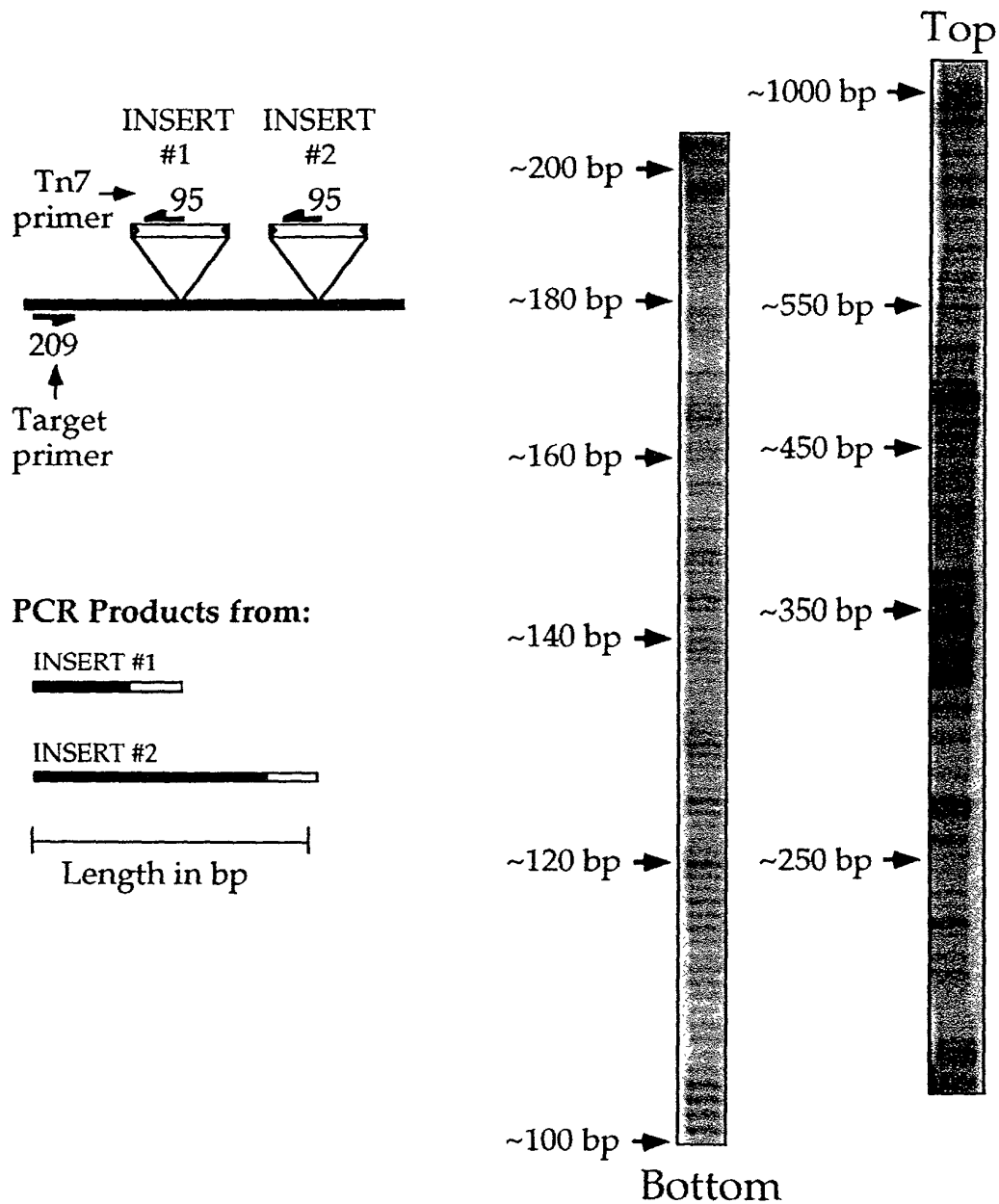
TnsA	+	+	+	+	+
TnsB	+	+	+	+	+
TnsC ^{wt}	-	+	-	-	-
TnsC ^{E233K}	-	-	+	-	-
TnsC ^{S401YΔ402}	-	-	-	+	-
TnsC ^{A225V}	-	-	-	-	+



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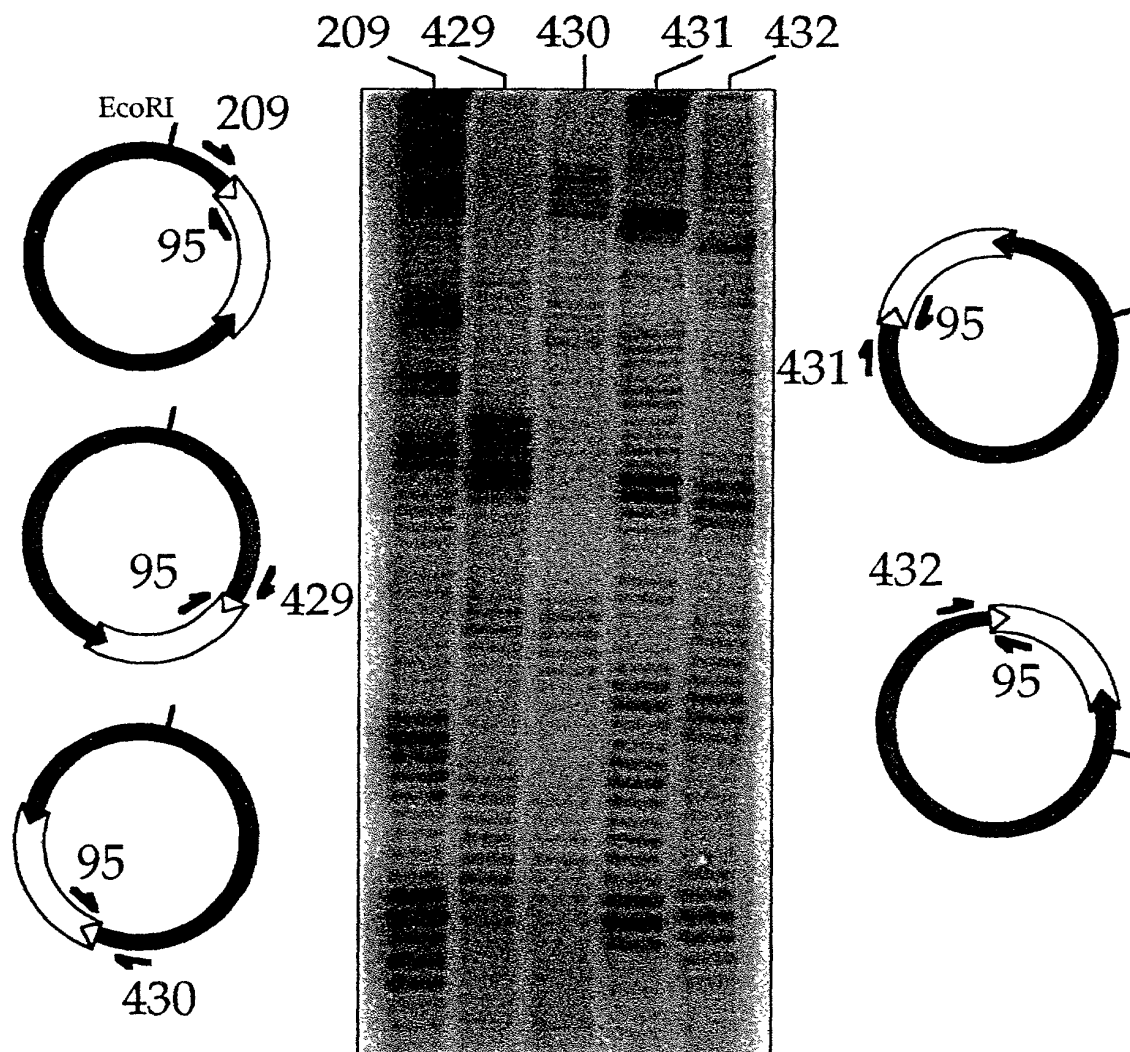
FIG. 7

Positions of TnsC^{A225V} Insertions



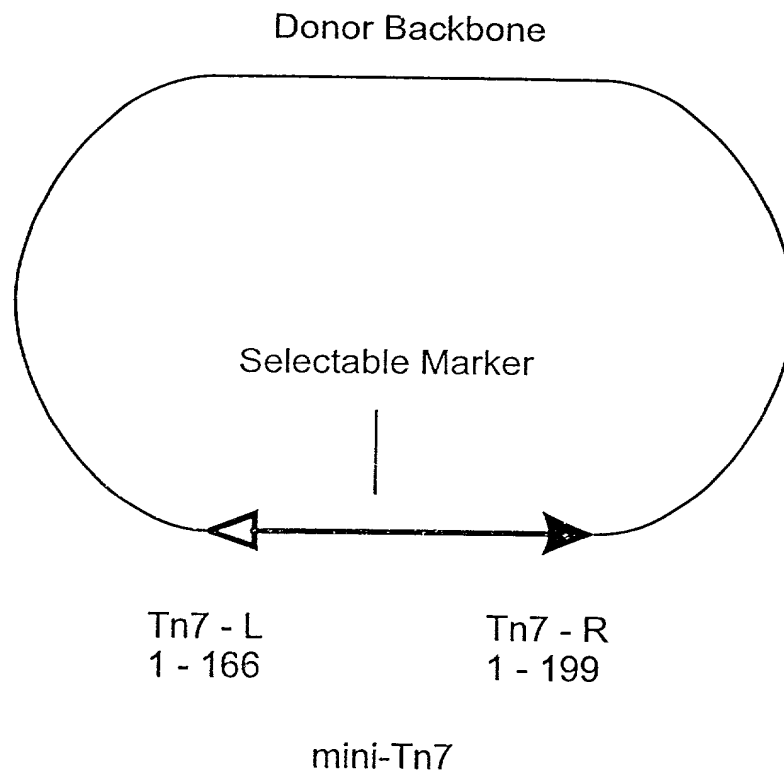
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FIG. 8



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FIG. 9A



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FIG. 9B

TTTAGAGCAATTCGGTGT TAGTTTCAGCAAGCAAACATTAACCATAGCTA
ATGATTTATAGCCATATTAACCATTGGGGTACCGAGCTCGAATTCCATGG
TCTGTTTCTGTGTGAAATTGTTATCCGCTCACAATTCCACACATTATAC
GAGCCGGATGATTAATTGTCAACAGCTCATTTTCAGAATATTTGCCAGAAC
CGTTATGATGTTCGGCGCAAAAAACATTATCCAGAACGGGAGTGC GCCTTG
AGCGACACGAATTATGCAGTGATTTACGACCTGCACAGCCATAACACAGC
TTCCGATGGCTGCCTGACGCCAGAAGCATTGGTGCACCGTGCAGTCGATG
ATAAGCTGTCAAACCAGATCAATTCGCGCTAACTCACATTAATTGCGTTG
CGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTA
ATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCCAGG
GTGTTTCTTTTCTTTTACCAGTGAGACGGGCAACAGCTGATTGCCCTTCAC
CGCCTGGCCCTGAGAGAGTTGCAGCAAGCGGTCCACGCTGGTTTGCCCCA
GCAGGCGAAAATCCTGTTTGATGGTGGTTGACGGCGGGATATAACATGAG
CTGTCTTCGGTATCGTCTGATCCCACTACCGAGATATCCGCACCAACGCG
CAGCCCGGACTCGGTAATGGCGCGCATTGCGCCCAGCGCCATCTGATCGT
TGGCAACCAGCATCGCAGTGGGAACGATGCCCTCATTCAGCATTTGCATG
GTTTGTGAAAACCGGACATGGCACTCCAGTCGCCTTCCCGTTCCGCTAT
CGGCTGAATTTGATTGCGAGTGAGATATTTATGCCAGCCAGCCAGACGCA
GACGCGCCGAGACAGAACTTAATGGGCCCCGCTAACAGCGCGATTGCTGG
TGACCCAATGCGACCAGATGCTCCACGCCAGTCGCGTACCGTCTTCATG
GGAGAAAATAATACTGTTGATGGGTGTCTGGTCAGAGACATCAAGAAATA
ACGCCGGAACATTAGTGCAGGCAGCTTCCACAGCAATGGCATCCTGGTCA
TCCAGCGGATAGTTAATGATCAGCCCACTGACGCGTTGCGCGAGAAGATT
GTGCACCGCCGCTTTACAGGCTTCGACGCCGCTTCGTTCTACCATCGACA
CCACCACGCTGGCACCAGTTGATCGGCGCGAGATTTAATCGCCGCGACA
ATTTGCGACGGCGCGTGCAGGGCCAGACTGGAGGTGGCAACGCCAATCAG
CAACGACTGTTTGCCCGCCAGTTGTTGTGCCACGCGGTTGGGAATGTAAT
TCAGCTCCGCCATCGCCGCTTCCACTTTTCCCGCGTTTTTCGCAGAAACG
TGGCTGGCCTGGTTTACCACGCGGGAAACGGTCTGATAAGAGACACCGGC
ATACTCTGCGACATCGTATAACGTTACTGGTTTTCACATTCACCACCCTGA
ATTGACTCTCTTCCGGGCGCTATCATGCCATAACCGCGAAAGGTTTTGCAC
CATTCGATGGTGTCAACGTAAATGCATGCCGCTTTCGCTTCGCGCGCGAA
TTGATCTGCTGCCTCGCGGTTTTCGGTGATGACGGTGAAAACCTCTGACA
CATGCAGCTCCCGGAGACGGTCAACAGCTTGTCTGTAAGCGGATGCCGGGA
GCAGACAAGCCCGTCAGGGCGCGTCAGCGGTGTTGGCGGGTGTGCGGGC
GCAGCCATGACCCAGTCACGTAGCGATAGCGGAGTGATACTGGCTTAAC
TATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATAATGCGGTGTGA
AATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCTCTTCCG
CTTCCTCGCTCACTGACTCGCTGCGCTCGGTTCGTTCCGCTGCGGCGAGCG
GTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGA
TAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACC
GTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGAC
GAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG
ACTATAAAGATAACAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTC
CTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCG
GGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGT
GTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGC
CCGACCGCTGCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGGTA

Sequence = 63646664

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FIG. 9B CONT-1

AGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG
AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACT
ACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCA
GTTACCTTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCAC
CGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAA
AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCT
CAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCATGAGATTATCAAA
AAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTAAATCAA
TCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATC
AGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGC
CTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCTTACCATCTG
GCCCCAGTGCTGCAATGATACCGCGAGACCCACGCTCACCGGCTCCAGAT
TTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCC
TGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTA
GAGTAAGTAGTTTCGCCAGTTAATAGTTTGGCGAACGTTGTTGCCATTGCT
GTAGGCATCGTGGTGTCACGCTCGTCGTTTGGTATGGCTTCATTACGCTC
CGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAAA
AAGCGGTTAGCTCCTTCGGTCCCTCCGATCGTTGTCAGAAGTAAGTTGGCC
GCAGTGGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGT
CATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGT
CATCTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCA
ACACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCAT
TGGAACACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTTGA
GATCCAGTTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCT
TTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGC
CGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCT
TCCTTTTTTCAATATTATTTGAAGCATTATCAGGGTTATTGTCTCATGAGC
GGATACATATTTGAATGTATTTAGAAAAATAAACAAAAAGAGTTTGTAGA
AACGCAAAAAGGCCATCCGTCAGGATGGCCTTCTGCTTAATTTGATGCCT
GGCAGTTTATGGCGGGCGTCCCTGCCCGCCACCCTCCGGGCGGTTGCTTCG
CAACGTTCAAATCCGCTCCCGGCGGATTGTCTACTCAGGAGAGCGTTT
ACCGACAAACAACAGATAAAACGAAAGGCCAGTCTTTCGACTGAGCCTT
TCGTTTTTATTGATGCCTGGCAGTTCCCTACTCTCGCATGGGGAGACCCC
ACACTACCATTCCGGCGTACGGCGTTTCACTTCTGAGTTCGGCATGGGGTC
AGGTGGGACCACCGCGCTACTGCCGCCAGGCAAATTCTGTTTTATCAGAC
CGCTTCTGCGTTCTGATTTAATCTGTATCAGGCTGAAAATCTTCTCTCAT
CCGCCAAAACAGCCAAGCTTGCATGCCTGCAGGTGCACTCTAGAGGATCC
CCAAGAAAGTCCGTCGGACAGCTTTAATAAACCCCTGCACTTATCTGTTTA
GTGTGGGCGGACAAAATAGTTGGGAACCTGGGAGGGGTGGAAATGGAGTTT
TTAAGGATTATTTAGGGAAGAGTGACAAAATAGATGGGAACCTGGGTGTAG
CGTCGTAAGCTAATACGAAAATTAATAATGACAAAATAGTTTGGAACTAG
ATTTCACTTATCTGGTTGGTTCGACCTGCAGGGGGGGGGGGGAAAGCCACG
TTGTGTCTCAAAAATCTCTGATGTTACATTGCACAAGATAAAAAATATATCA
TCATGAACAATAAACTGTCTGCTTACATAAACAGTAATACAAGGGGTGT
TATGAGCCATATTCAACGGGAAACGCTCTTGCTCGAGGCCGCGATTAAAT
CCAACATGGATGCTGATTTATATGGGTATAAATGGGCTCGCGATAATGTC
GGGCAATCAGGTGCGACAATCTATCGATTGTATGGAAGCCCGATGCGCC
AGAGTTGTTTTCTGAAACATGGCAAAGGTAGCGTTGCCAATGATGTTACAG
ATGAGATGGTTCAGACTAACTGGCTGACGGAATTTATGCCTCTTCCGACC
ATCAAGCATTTTATCCGTACTCCTGATGATGCATGGTTACTCACCAGTGC
GATCCCCGGGAAAACAGCATTCCAGGTATTAGAAGAATATCCTGATTACG
GTGAAAATATTGTTGATGCGCTGGCAGTGTTCCTGCGCCGGTTGCATTGCG
ATTCTGTGTTGTAATTGTCCTTTTAACAGCGATCGCCTATTTTCGTCTCGC
TCAGGCGCAATCACGAATGAATAACGTTTGGTTGATGCGAGTGATTTTG

FIG. 9B CONT-1

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FIG. 9B CONT-2

ATGACGAGCGTAATGGCTGGCCTGTTGAACAAGTCTGGAAAGAAATGCAT
AAGCTTTTGCCATTCTCACCGGATTTCAGTCGTCACTCATGGTGATTTCCTC
ACTTGATAACCTTATTTTTGACGAGGGGAAATTAATAGGTTGTATTGATG
TTGGACGAGTCGGAATCGCAGACCGATACCAGGATCTTGCCATCCTATGG
AACTGCCTCGGTGAGTTTCTCCTTCATTACAGAAACGGCTTTTTTCAAAA
ATATGGTATTGATAATCCTGATATGAATAAATTGCAGTTTCATTTGATGC
TCGATGAGTTTTTCTAATCAGAATTGGTTAATTGGTTGTAACACTGGCAG
AGCATTACGCTGACTTGACGGGACGGCGGCTTTGTTGAATAAATCGAACT
TTTGCTGAGTTGAAGGATCAGATCACGCATCTTCCCGACAACGCAGACCG
TTCCGTGGCAAAGCAAAAGTTCAAAATCACCAACTGGTCCACCTACAACA
AAGCTCTCATCAACCGTGGCTCCCTCACTTCTGGCTGGATGATGGGGCG
ATTCAGGCCTGGTATGAGTCAGCAACACCTTCTTCACGAGGCAGACCTCA
GCGCCCCCCCCCCCCCTGCAGGTGACCCCCACGCCCCCTTTTAATACGACG
GGCAATTTGCACTTCAGAAAATGAAGAGTTTGCTTTAGCCATAACAAAAG
TCCAGTATGCTTTTTTCACAGCATAACTGGACTGATTTTCAGTTTACAACCTA
TTCTGTCTAGTTTAAGACTTTATTGTATAGTTTAGATCTATTTTGTTCA
GTTTAAGACTTTATTGTCCGCCCA

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FIG. 9C

pEM-delta -> List

DNA sequence 5926 b.p. CAGATCAATTGG ... AAGCTGTCAAC circular

pEM-delta

old name = mTh7.L166.R199

Thursday, January 9, 1992 10:58:46 PM

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101	CGCGGGGAG	AGCGGGTTTG	CGTATTGGGC	GCCAGGGTGG	TTTTTCTTTT	CACAGGTGAG	ACGGGCAACA	GCTGATTGCC	CTTCACCGCC	TGGCCCTGAG
201	AGAGTTGCAG	CAGAGGGTTC	ACGCTGGTTT	GCCCCAGCAG	GCGAAATCC	TGTTTGATGG	TGGTTGACCG	CGGGATATAA	CATGACGTCG	CTTCGGTATC
301	GTGCTATCCC	ACTACCGAGA	TATCCGCACC	AACGCGCAGC	CGGAGCTCGG	TAATGGCGCG	CATTGCGCCC	AGCGGCATCT	GATCGTTGGC	AAACGACATC
401	CGAGTGGGAA	CGATCCCTTC	ATTGACGATT	TGCATGGTTT	GTGTGAAACC	GGACATGGCA	CTCCAGTCCG	CTTCCCGTTC	CGCTATCGGC	TGAATTGATG
501	TGCGAGTGAG	ATATTATATG	CAGCCAGCCA	CAGCGAGAGC	CGCCGAGACA	GAACCTTAAT	GGCCCGCTAA	CAGCGCGATT	TGCTGGTGAC	CCAATGCCAG
601	CAGATGCTCC	ACGCCAGATC	CGGTACCGTC	TTCATGGGAG	AAAATAATAC	TGTTGATGGG	TGTCGTGTCA	GAGACATCAA	GAATAAACC	CGGAACATTA
701	GTGCGAGGAG	CTTCCACAGC	AATGGCATCC	TGGTCATCCA	GCGGATAGTT	AATGATCAGC	CCACTGACGC	GTTGCGCGAG	AAGATTGTGC	ACCGCGGCTT
801	TACAGGCTTC	GACGCGGCTT	CGTCTACCCA	TCGACACACC	CACGCTGGCA	CCCAGTTGAT	CGGCGGAGA	TTTAATCGCC	GGGACAAATT	GCGAGGGCGC
901	GTGCGAGGCC	AGACTGGAGG	TGGCAACGCC	AATCAGCAAC	GACTGTTTGC	CGGCGAGTTG	TGTGCCACG	CGGTTGGGAA	TGTAATTCAG	CTCGGCATC
1001	CGCGCTTCCA	CTTTTTCGGG	CGTTCGCGA	GAACGCTGGC	TGGCTGGTT	CACACGCGGG	GAACCGTCT	GATAAGAGAC	ACCGGCATAC	TCTGCGACAT
1101	CGTATAACGT	TACTGCTTTC	ACATTCACCA	CCGTAATTTG	ACTCTCTTCC	GGCGCTATC	ATGCCATACC	GCGAAAGGTT	TTCGACCAT	CGATGGTGTG
1201	AAGCTAAATG	CATGCCGCTT	CGCCTTCGCG	CGCGAATTTG	TCCTGCTGCT	CGCGGCTTTC	GGTGTGACG	GTGAAACCT	CTGACACATG	CAGCTCCCGG
1301	AGACGGTCAC	AGCTTGTCTG	TGACGGGATG	GGTATCTGCG	CGGATCAGA	CGAGGCTGAT	CGGCGGTTG	TGGCGGTTG	CGGCGCGAG	CCATGACCCA
1401	GTCAAGGAGC	GATACGGGAG	TGTATCTGCG	CTTACTATGT	CGGATCAGA	GACTCGCTGC	GCTCGGTCG	TCCGCTCGCG	CGAGCGGTAT	CAGCTCACCT
1501	CGGTAAAGAG	AAATATCCCG	ATCAGGCGCT	CTTCGCTTTC	CTCGCTCACT	ACATGTGAGC	AAAAGGCCAG	CAAAAGGCCA	GGAAACGTAA	AAAGGCCGCG
1601	AAAGCGGGTA	ATACCGTTAT	CCACAGAAAT	ACGGGATTAAC	CAGGAAAGAA	TCATGTGAGC	AGTCAGAGGT	GGCGAAACCT	GACAGGACAT	TAAAGATATC
1701	GTCAAGGAGC	TTTTCACATG	CTTCCGCGCC	CGTTCGCGCC	ATCAGCAAAA	CGGCTTACCG	GATACCTTTC	CGGCTTTCCT	CGCTTTCGGA	GGGTGGGCGT
1801	AGCGGTTTCC	CGCTGGGAGC	TCCCTGCTGC	GCTCTGCTGT	TCCGACCCCT	CAAGCTGGGG	CTGTGTGAC	GAACCCCGCG	TTCAGCCGCA	CGGCTGCGCC
1901	TTTCTATAGC	TCACGCTCTA	GGTATCTCAG	TTCGGTGTAG	ACGACTTATC	GCCACTGGCA	GCAGCCACTG	GTAACAGGAT	GTCAGAGGCG	AGGTATGTAG
2001	TTATGCGGTA	ACTATGCTTC	TGAGTCCAAC	CCGTAAGAGC	ACGACTTATC	AGGACGATAT	TTGGTATCTG	CGCTCTGCTG	AAGCCAGTTA	CCTTCGGAAA
2101	CGGCTGTAC	AGAGTTCCTG	AAGTGGTGGC	CTAATCTAGG	CTACACTAGA	AGGACGATAT	TTGGTATCTG	CGCTCTGCTG	AAGCCAGTTA	CCTTCGGAAA
2201	AAGAGTTGGT	AGCTCTTGAT	CCGCAAAACA	AACCAACCGT	GAGTACCGTG	GTCTTTTGTG	TTGCAAGCAG	CAGATTACGC	CGAGAAAAAA	AGGATCTCAA
2301	GAAGATCCCT	TGATCTTTTC	TACGGGGTCT	GAGCTCTAGT	GGAGCAAAAA	CTACGTTTAA	GGGATTTTGG	TCATGAGATT	GAGTAAAAAG	ATCTTTCACG
2401	AGATCCCTTT	AAATTAATAA	TGAAGTTTTA	AATCAATCTA	AAGTATATAT	GAGTAAACCT	GGTCTGACAG	TTACCAATGC	TTAATCAGTG	AGGCACTTAT
2501	CTCAGCGATC	TGTCTATTTT	GTTCATCCAT	AGTTGCTCTG	CTCCCGCTGC	TGTAGATAAC	TACGATACCG	GAGGCTTTAC	CATCTGGGCC	CAGTGTCTGA
2601	ATGATACCGC	GAGACCCAGC	CTACCGGCTT	CCAGATTATAT	CAGCAATAAA	CCAGCAGACC	GGAGGCGCGG	AGCGCAGAGG	TGTCTCTGCA	ACTTTATCCG
2701	CCTCCATCCA	GTCTATTAT	TGTTGCGGGG	AAGCTAGAGT	AAGTATTTTC	CCAGTTAATA	GTTCGCGCAA	CGTGTGTGCG	ATGCTGTAGT	GCATCGTGGT
2801	GTACCGCTCG	TCGTTTGGTA	TGGCTTCATT	CAGCTCCGGT	TCCCAACGAT	CAAGCGGAGT	TACATGATCC	CCCATGTTGT	GCAAAAAAGC	GGTTAGCTCC
2901	TTCAGTCTCG	AGCTAGCTGT	CAGAAGTAAG	TTGGCCGCGG	TGTTATCACT	CATGTGTTAT	GCAGCATCTG	ATATCTCTCT	TACTGTCTAT	GAACAATATA
3001	GATGCTTTTC	TGTGACTGTT	GAGTACTCAA	CCAAGTCATT	CTGAGATAG	TGTATGCGCG	GACCGAGTTG	CTCTGCGCG	GGTTCACAC	GGGATATATC
3101	CGCGCCACAT	AGCAGAACTT	TAAAGTGCTT	CATCATTGGA	AAACGTTCTT	CGGCGCGAAA	ACTCTCAAGG	ATCTTTCGCG	TGTTGAGATC	CAGTTTCGATG
3201	TAAACCCACT	CGTACCTTCA	CTGATCTTCA	GCATCTTTTA	CTTTCACAGG	CGTTTCTGGG	TGAGCAAAAA	CAGGAGGCGA	AAATGCGCGA	AAAGAGGGAA
3301	TAAAGGGGAC	ACGGAATATG	TGAATACTCA	TACTCTTCTT	TTTTCATAT	TATTGAGACA	TTTATCAGG	TATTGTCTCT	ATGAGCGGAT	ACATATTTTA
3401	ATGTATTATG	AAAAATAAAC	AAAAAGAGTT	TGTAGAAAGC	CAAAAAGGCC	ATCCGTCAGG	ATGGCTTCTT	GCCTTAATTT	ATGCGTGGCA	GTTTATGGCG
3501	GGCGTCCGTC	CGCGCCACCT	CGCGCCGCTT	GCTTCGCAAC	GTTCACATCT	CGCTCCCGCG	GATTGTGCTT	ACTCAGGAGA	GCTTTCACCG	ACAAACACAG
3601	GATAAAACGA	AAGGCCAGT	CTTTCGACTG	AGCCTTTCGT	TTTATTTGAT	CGCTGGCAGT	TCCCTACTCT	CGCATGGGGA	GACCCACAC	TACCATCGGC
3701	GCTACGGCGT	TTCATCTCTG	AGTTCGGCAT	GGGTCAGGTT	GGGACACCG	CGCTACTGCC	GCCAGGCAAA	TCTGTGTTTA	TGACACCGCT	TCTGCTGTCT
3801	GATTTAATAT	GTATCAGGCT	GAAATCTTTC	TCTCATCCCG	CAAAAACAGCC	AAGCTTGCAT	GCTTCGAGGT	CGACTCTAGA	GGATCCCGAA	GAAAGCTCGT
3901	CGGACAGCTT	TAATAAACCC	TGCATTTATC	TGTTTAGTGT	GGGCGACAA	AATAGTGGG	AACGCGGAGG	GGTGGAAATG	GAGTTTITAA	GGATTATTTA
4001	GGGAGAGGTG	ACAAAAATGA	TGGGAATCGG	GTTAGGCTC	GTAAGCTAAT	ACGAAATATA	AAAATGACAA	AATAGTTTGG	AATAGATTIT	CACTTATCTG
4101	GTGTGTGAC	CTGCGAGGGG	GGGCGGAA	GCCACGTTGT	GTCTCAAAAT	CTCTGATGTT	ACATTGACAA	AGATAAAAT	ATATCATCAT	GAACAATAAA
4201	ACTGTCTGCT	TACATAAACA	GTAATACAAG	GGGTGTTATG	AGCCATATTC	AACGGGAAAC	GTCCTGTCTG	AGGCGCGGAT	TAAATTCCAA	CATGATGCTT
4301	GATTTATATG	GGTATAAATG	GGCTCGGAT	AATGTCGGGC	AATCAGGTGC	GACAACTCAT	CGATTGTATG	GGAGGCCGGA	TGCGCCACAG	TTGTTTCTGA
4401	AACATGCGAA	AGGTAGCGTT	GCCAATGATG	TTACAGATGA	GATGGTCAGA	CTAAACTGGC	TGACGGAAAT	TATGCTCTTT	CCGACCATCA	AGCATTTTAT
4501	CGGTACTCTT	GATGATGCAT	GGTTACTCAC	CAGTGGGATC	CCCGGAAAA	CAGCATTOCA	GGTATTAGAA	GAAATCTCTG	ATTCAGGTGA	AAATATTGTT
4601	GATGCGCTCG	CAGTGTTCCT	GGCGCGGTTC	CATTCGATTC	CIGTTTGATA	TGCTCTTTT	AACAGCGATC	CGGTATTTCG	TCTCGCTCAG	GGGCAATCAC
4701	GAATGAATAA	CGGTTGGGTT	GATGCGAGTG	ATTTTGATGA	CGAGCGTAA	GGCTGGCGCT	TTGAAACAAG	CTGGAAGAAG	ATGCATAAGC	TTTTCGCAAT
4801	CTCAGCGGAT	TCAGTCTGTA	CTCATGGTGA	TTTCTCACTT	GATAACCTTA	TTTTTTGACG	GGGAAATTA	ATAGGTTGTA	TTGATGTTGG	ACGAGTCCGA
4901	ATCGCGGAGC	GATACAGAGA	TCTTTCGATC	CTATGGAAT	GCTTCGGTGA	GTCTTCTCTT	TCATTACAGA	AACGGCTTTT	TCAAAATAT	GGTATTGATA
5001	ATCTCGTATG	GATTAATATG	CAGTTTCAAT	TGATGCTCGA	TGAGTTTTC	TGATCAGAA	TGTTTAAATG	GTGTAAACAC	TGCGACAGCA	TTACCTTCAC
5101	TTGACGGGAC	GGCGGCTTTG	TGAATAAAT	CGAATTTTTC	CTGAGTTGAA	GGATCAGATC	ACGCACTTTC	CCGACAAACG	AGACCGTTCC	GTGGCAAGCG
5201	AAAGTTTCAA	AATCACCAC	TGGTCCACCT	ACAACAAGC	TCTCATCAAC	CTGAGCTTCC	TCATTTTTCG	GCTGGATGAT	GGGCGGATTC	AGGCGTGGTA
5301	TCAGTCAGCA	ACACTTCTTT	CACGAGGCGC	ACCTCAGCGC	CCCCCCCC	CGTCAAGTGC	ACCCCAACCG	CCTCTTTTAT	AGCAGCGGCA	ATTTCGCAAT
5401	CAGAAAAATG	ACAGTTTTC	TTAGCCATPA	CAAAAGTCCA	GTAATGCTTT	TCACAGCATA	ACTGGACTGA	TTTCAGTTTA	CAACTATCTT	GCTAGTTTAA
5501	AGACTTTTAT	GTCAATGTTT	AGATCTTAT	TGTTCACTTT	AAGACTTTAT	TGTCGCGCCA	CATTAGAGCA	AATTCGGTGT	TAGTTTTCAG	AAGCAACAT
5601	TAACTAATGA	TATGATTTTA	TAGCCATATT	AACCATTTGG	GTACCCAGCT	CGAATTTCCAT	GGTCTGTTTC	CTGTGTGAAA	TGTGTATCCG	CTCACAATTC
5701	CACACATTAT	ACGAGCCGGA	TGATTAATTT	TCAACAGCTC	ATTTCAGAA	ATTTGCCAGA	ACCGTTATGA	TGTCGCGCGA	AAAAACATTA	TCCAGAACCG
5801	GAGTGGCGCT	TGAGCGACAC	GAATTAATGA	GTGATTTACG	ACCTGCACAG	CCATACACAA	GCTTCGAGT	GCTGCTGAC	GCCAGAGCA	TTGGTGCACC
5901	GTGCGAGTGA	TGATAGCTG	TCAAAAC							5926

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FIG. 10A

GAATTCCGGATGAGCATTTCATCAGGCGGGCAAGAATGTGAATAAAGGCCG
GATAAAACTTGTGCTTATTTTCTTTACGGTCTTTAAAAGGCCGTAATA
TCCAGCTGAACGGTCTGGTTATAGGTACATTGAGCAACTGACTGAAATGC
CTCAAAATGTTCTTTACGATGCCATTGGGATATATCAACGGTGGTATATC
CACTGATTTTTTTCTCCATTTTAGCTTCCTTAGCTCCTGAAAATCTCGAT
AACTCAAAAAATACGCCCCGGTAGTGATCTTATTTTCATTATGGTGAAAGTT
GGAACCTCTTACGTGCCGATCAACGTCTCATTTTCGCCAAAAGTTGGCCC
AGGGCTTCCCGGTATCAACAGGGACACCAGGATTTATTTATTCTGCGAAG
TGATCTTCCGTCACAGGTATTTATTTCGGCGCAAAGTGCGTCGGGTGATGC
TGCCAACTTACTGATTTAGTGATGATGGTGTTTTTGAGGTGCTCCAGTG
GCTTCTGTTTCTATCAGCTGTCCCTCCTGTTTCAGCTACTGACGGGGTGGT
GCGTAACGGCAAAAGCACCGCCGGACATCAGCGCTAGCGGAGTGATACT
GGCTTACTATGTTGGCACTGATGAGGGTGTGAGTGAAGTGCTTCATGTGG
CAGGAGAAAAAAGGCTGCACCGGTGCGTCAGCAGAATATGTGATACAGGA
TATATTCCGCTTCTCGCTCACTGACTCGCTACGCTCGGTGCTTCGACTG
CGGCGAGCGGAAATGGCTTACGAACGGGGCGGAGATTTCTGGAAGATGC
CAGGAAGATACTTAACAGGGAAGTGAGAGGGCCGCGCAAAGCCGTTTTT
CCATAGGCTCCGCCCCCTGACAAGCATCACGAAATCTGACGCTCAAATC
AGTGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCTG
GCGGCTCCCTCGTGCGCTCTCCTGTTCTGCTTTCGGTTTACCGGTGTC
ATTCCGCTGTTATGGCCGCGTTTGTCTCATTCACGCCTGACACTCAGTT
CCGGGTAGGCAGTTTCGCTCCAAGCTGGACTGTATGCACGAACCCCCCGTT
CAGTCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCC
GGAAAGACATGCAAAAGCACCCTGGCAGCAGCCACTGGTAATTGATTTA
GAGGAGTTAGTCTTGAAGTCATGCGCCGGTTAAGGCTAAACTGAAAGGAG
AAGTTTTGGTGACTGCGCTCCTCCAAGCCAGTTACCTCGGTTCAAAGAGT
TGGTAGCTCAGAGAACCCTTCGAAAAACCGCCCTGCAAGGCGGTTTTTTCG
TTTTTCAGAGCAAGAGATTACGCGCAGACCAAAACGATCTCAAGAAGATCA
TCTTATTAATCAGATAAAATATTTCTAGATTTTCAGTGCAATTTATCTCTT
CAAATGTAGCACCTGAAGTCAGCCCCATACGATATAAGTTGTAATTCTCA
TGTTTGACAGCTTATCATCGGATGGATCTGAAATTGTAAACGTTAATATT
TTGTTAAATTGCGCTTAAATTTTTGTTAAATCAGCTCATTTTTTAAACCA
TAGGCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGAT
AGGGTTGAGTGTTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACG
TGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGCCCCA
CTACGTGAACCATCACCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAA
AGCACTAAATCGGAACCTAAAGGGAGCCCCGATTTAGAGCTTGACGGG
GAAAGCCGGCGAACGTGGCGAGAAAGGAAGGGAAGAAAGCGAAAGGAGCG
GGCGCTAGGGCGCTGGCAAGTGTAAGCGGTACGCTGCGCGTAACCACCAC
ACCCGCGCGCTTAATGCGCCGCTACAGGGCGCGTCAGATCCCATCGATA
AGCTTTAATGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGGCA
CCGTGTATGAAATCTAACAATGCGCTCATCGTCATCCTCGGCACCGTCAC
CCTGGATGCTGTAGGCATAGGCTTGGTTATGCCGGTACTGCCGGGCCCTCT
TGCGGGATATCGTCCATTCCGACAGCATCGCCAGTCACTATGGCGTGCTG
CTAGCGCTATATGCGTTGATGCAATTTCTATGCGCACCCGTTCTCGGAGC
ACTGTCCGACCGCTTTGGCCGCCGCCAGTCCTGCTCGCTTCGCTACTTG
GAGCCACTATCGACTACGCGATCATGGCGACCACACCCGTCCTGTGGATC
CGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCA
GGGTTTTCCAGTCACGACGTTGTAAAACGACGGCCAGTGAATTGCGGCC
GCCCTGCAAGGAAGGGAATGTCGCCAACAGCGAAGAGAGTTGGGCAACGG
ATGTGCTGGTGGAGGTGATCGCCTCCTGATGATGAGCCGCTCCCGATGTG

"seq" = "sequence"

FIG. 10A (CONT)-1

GTGTCGGGAGCGGGTATTTTCTATAAAACTTACCCTTATTGTAGATATTC
ATCGAAAATGTCGAGTAATTCTTGATGTATACACGGCCATTCTCTGACCTA
AATTGACGGTACACAAGCCAATATCGAAGCCATTAATTTTATAACGATGT
TTCACTGCGGTATCTACGTGGGGATATATTAATAACCCCCCTATGTTTTC
GCCATTTTCAGGCTTTAACGACCATAAGTAATTCATCAGTTGATAAAGAT
TTTGCGAATGAAATTTTCTGTTCCCATTCGTCGTGAAAAAATGCTCTTA
TAGTATTTGGCGTCAACGATAAGTATTTTTTCTGATGACCGAATGGTGAT
GTCAGTTTCCATTTCGAGGTAACAAATTAAGTGACTGATCCGATATACTCG
ATGCATCCCATTTTAAATAAGAGCGGGTGTGTTTGCAGACGTTAATTCA
CGACGGCAAAATTCATAAAGAACTTTTGATAAAGTAATGACATCTCTTT
TTCGTTTCTTTCAAATCATAGAAACGGTAGTGTCTTTGTTTTGACCTG
GAATAGAATTATTGACGATGAATTTGCAGACACTGATAACGAATTTATAA
TAACGCGTATTTTTCGCCCATTCAGATAGCTGAAATGCTGCGGAGTTAA
ATGAAGAGTGTAAATGCCCGGTAATTTTCTATAAAGTGAACGAGCTTCAT
CTCTGATAGTTGAATTTAACTTTTCATGCTTAATTAATATGGCTAATGTG
CTTTTTATAATTTCGGTTAGCCAGCGTGTCTTCATTAAGCATATCAAAGT
ACTGACGGTTTTTCCCATGATTAAGATGGAAGCCGCGTATTGTTTTAGCAA
ACTCTATTTCGCCCTTTGATGCCAGGAATGATCTCGGTGTTAGGATTGTAA
TCAAGCTCAAGCCCTCGGCGTGAAAGCTGTAAAACCCCTTTATTTAATAC
ATACCCAGGATATCAAGAAGATTGTTACCGGGTATGGCTTCAAGGTTTG
CCTGCTTAATTTCCGTGTAAATAACCCCATGCATAGGTAAGCATGTAATAG
ATATTACGGACAGGTATCACGGGCTGTTCCTATGAGTCCCCTAATAAT
TTGTTGGTCCATTTCTGTTGTTTATAGGGGTCATCAAAGAAATATTCTTC
GAGTAAAGGGGCGATATCCGTCATCACAAATTTCAATTAAGCCATTGCGTAT
CCGGAGAGGTGCCATTTCCAAACCCACAGCAGAAGTAACATTGCCCAATG
CGGAATCCTTTCCCAAGGATAGTGGCTCTTTTGCTGATTTCTTGTTCAA
CTCGTTCAATTTTTTGGCATAAAGACTCAACAAATGAAGGTTCTGCTTTTT
TATTCAGTAAAAAATTCGGGAAGTGTGGTGTATCAAAACCTGGCTCAATA
TCTATGAAAGAAAATCGTCTGCGTAGGGCATAGTCAACAACGGCCAGAGA
GCGATCGGCAGTATTCATTAACCGATGATATAAACATTCTCCGGGACAT
AGAATCGTTCCTCATCGTTTTTCGGAGTAGGTTAGGGGAACAGACCAGTTT
TCACCTCGTTTATCATGTTCCATTAACATCATCACTTCGCCAAATACTTT
ACTGAGATTGGCACGATTGATTTTCATCTATAATAAAAAATATACTTTTTCT
CTGGCTGCTCTTTAGCTTGCTGACAAAAATTGTAAAATATGCCGCTTTTA
CGTCGGAAGCCGACGCCATTCGGACGATAGCCCTGTATAAAATCCTCATA
GCTATAAGATTGATGGAACGAACCATATTGACGCGTTGCGGAGCCTTTT
CTCCTGTCAGCAAGTAAGCCAGACGGCGTGCAACAAAGGTTTTTCCAACG
CCJGGCGGCCCTGGAGGATAATATTTTTTTTGATGGTTAATCGTTTGAG
TATCGTCTCTATTGTGGTTTCAGGGATAAAACAATCATTAAACGCATCTT
CCAGACAGTATGATTACGTTTGTGACATAGTGGGAATCAACACTCTTGCCA
GAATTAATATTAATTTATAGTCGTTGATTATGTTGTCCAGCATAGAGGC
AAATCGGGTGTAAATCAATACCCTGTGAGACTTTTTGGGAACAGGCGTAAT
AGGACTGTCCGTATTTTTTTAGGATATACACCCGAAGTTGCCTGAAAATAC
TCTGCGATTGTTTTAGGTATGTCTGAAGAGAACTGCCATTGGGCATGTGG
TTCATTCTGTGTCGTTTATACCATAAGCCAAAACCAACTCATCAAATCTT
TATAATAGAGAATAACGGGATATATACCGTTAGAAGCTTCCTGACCTTCT
CCAAGAAATGCAAAACCAGGGAATAGACGTAAAATTACCATAACCGAAACT
CAATTTTACTCGCAGGTTACGGTAAGACGTTGGATAATCTTTAGTGGAAT
GCGAACGTTGTTGCTGTGCTTGCTTAATAAATTTTTCAATCCAGGGTTGA
ATAGATTCCCATAGAATAGCTTCCCTCCTTTGCTAAGCCTCTATTATCGCT
TTGCGAACGTAAGTGAACAAATAGATTTTACTGCAAAATCAGACTGGTAA
ATATTTACTGAGGGGAAAGTTTCTATTGAGTCAAGTGAAGGCTCCCGGT
GGTTAAACGGGGAGTAAACGCTGTTACGCGACTTTCTGTTTACCGGCAATC
ACTCCAATAAACGCCTGCACCTGCTTTTTGTTTACGCGCCGACAGTTTGCA

CACCTTGGCGTAGCGACTGCATCAGTTTCGCTCTCCTCGGCGGGGGTGGT
GGGCGGTGAGGACAATACAGCCTTCCATCACTTTGACATCTACCGCCGTG
CCAGTGGCAAACCGGCGGCTTCCAGCCACTGACCTTTCAGGGTGATGGC
GGGAATACGGCTGTAATCCGGGTAGCGACTCGCATAACCGACGGTGACAT
GACGGTTATTTGCCGGGGAGACTTCTGCTTCGAACGGTTGTGCAATAGAA
TGCGTGTCAATCACTGCTATTCTCCAGGAATAGTGATTGTGATTAGC
GATGCGGGTGTGTTGGCGCACATCCGACCCGCGCTAAATACCTGTATATA
TCATCAGTAAATATGGGAAAGTCAGCTAAAAATAGAATAAAATGGGCA
ATTTCTGGAATGATTTAAATATATTTATGTGGGTTATGATTTGGCGTAA
TAATAAAAGCGCACCGGAAAGGTGCGCCAGAAAAATATGTTTCAGGATTT
TTTACGTGAGGCTTTTACCCTCGCTAGCTGCGCGTTCAGCTTTGATTT
TTTCCAGCAACGCGGCGGCGCTGTTTTCTCCGCTGATCAAATCCGGGTTT
TCGGCCCGCCACTGGGCGGTAAAGTTCACCACGGAACGCTTTTGCCAGGAT
GGATTGCGTCAGGTTGTTGACGCGGGCTAAGGCGTTGTTGACCTGTTTTT
CTATGGTGTGCGGCTAGGCGAAGAGTTGCTCGACGCGGCGAACGATTTCCG
GCTTGTTCTTTTACTGGAGGTAATAAAACAACCTTGGGATTTGATATCTTT
TCCTGAAATACCTTTTTTGACCAGAAGTTGTTTTACGCGAGTTCATCATTTG
CATTTTCGTGCTGAGGGGGATGAAAAAATATTTTCGATATATCTGGTAA
GCATCTTTGGTTAATCGAGCTCGAATAAGTTTATCAGGATATAGCAAAAT
TTGATGTTGTAATTTTTTCAATAACCCACAACACCAACAATTTCTAAAC
TTCCGTTATAGCGAGTAAATAAAAGATCTCCATCTTGTAATTTGTGGCGG
TTTAGTTCACTTTCTGAACATTCTAGAGTCGACCTGCAGGCATGCAAGCT
TGGCGTAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTC
ACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGG
TGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCG
CTTTCAGTCGCGGAAACCTGTCTGTGCCAGCGGATCCTCTACGCCGGACGC
ATCGTGGCCGGCATCACCGGCGCCACAGGTGCGGTTGCTGGCGCCTATAT
CGCCGACATCACCGATGGGGAAGATCGGGCTCGCCACTTCGGGCTCATGA
GCGCTTGTTTCGGCGTGGGTATGGTGCGAGGCCCGCTGGCGGGGGACTG
TTGGGCGCCATCTCCTTGCTATGCACTTCTTTCGGCGGGCGGTGCTCAA
CGGCTCAACCTACTCTGGCTGCTTCTTCAATGAGGAGTCGCATAAAG
GAGAGCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCAGCTCCTTC
CGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTT
TATCATGCAACTCGTAGGACAGGTGCCGCGACGCTCTGGGTCAATTTCCG
GCGAGGACCGCTTTCGCTGGAGCGCGACGATGATCGGCCTGTGCTTGCG
GTATTCGGAATCTTGACGCGCCTCGCTCAAGCCTTCGTCACTGGTCCCGC
CACCAAACGTTTTCGGCGAGAAGCAGGCCATTATCGCCGGCATGGCGGCCG
ACGCGCTGGGCTACGTCTTGCTGGCGTTTCGCGACCCGAGGCTGGATGGCC
TTCCCCATTATGATTCTTCTCGCTTCCGGCGGCATCGGGATGCCCGCGTT
GCAGGCCATGTGTCCAGGCAGGTAGATGACGACCATCAGGGACAGCTTC
AAGGATCGCTCGCGGCTCTTACCAGCCTAACTTCGATCATTTGGACCGCTG
ATCGTCACGGCGATTATGCGCGCTCGGCGAGCATGGAACCGGTTGGC
ATGGATTGTAGGCGCCGCCCTATACCTTGCTGCTGCCCGCGGTTGCGTC
GCGGTGCTAGGAGCCGGGCCACCTCGACCTGAATGGAAGCCGGCGGCCACC
TCGCTAACGGATTACCACTCCAAGAATTGGAGCCAATCAATTCTTGCGG
AGAACTGTGAATGCGCAAACCAACCTTGGCAGAACATATCCATCGCGTC
CGCCATCTCCAGCAGCCGCACGCGGCGCATCTCGGGCAGCGTTGGGTCTCT
GGCCACGGGTGCGCATGATCGTGCTCCTGTGCTTGAGGACCCGGCTAGGC
TGGCGGGGTTGCCTTACTGGTTAGCAGAATGAATCACCGATACGCGAGCG
AACGTGAAGCGACTGCTGCTGCAAAACGCTCTGCGACCTGAGCAACAACAT
GAATGGTCTTCGGTTTCCGTTGTTTCGTAAGTCTGGAACCGCGGAAGTCC
CCTACGTGCTCTGAAGTTGCCCGCAACAGAGAGTGGAACCAACCGGTGA
TACCAGGTACTATGACTGAGAGTCAACGCCATGAGCGGCCTCATTTCTT
ATTCTGAGTTACAACAGTCCGCAACCGCTGCGGGTAGCTCCTTCCGGTGGG

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FIG. 10A (CONT)-3

CGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCATG
CAACTCGTAGGACAGGTGCCGGCAGCGCCCAACAGTCCCCCGGCCACGGG
GCCTGCCACCATAACCCACGCCGAAACAAGCGCCCTGCACCATTATGTTCC
GGATCTGCATCGCAGGATGCTGCTGGCTACCCCTGTGGAACACCTACATCT
GTATTAACGAAGCGCTAACCGTTTTTATCAGGCTCTGGGAGGCAGAATAA
ATGATCATATCGTCAATTATTACCTCCACGGGGAGAGCCTGAGCAAATG
GCCTCAGGCATTTGAGAAGCACACGGTCACACTGCTTCCGGTAGTCAATA
AACCGGTAAACCAGCAATAGACATAAGCGGCTATTTAACGACCCTGCCCT
GAACCGACGACCGGGTCTGAATTTGCTTTCTGAATTTCTGCCATTTCATCCGC
TTATTATCACTTATTCAGGCGTAGCAACCAGGCGTTTAAGGGACCAATA
ACTGCCTTAAAAAAATTACGCCCCGCCCTGCCACTCATCGCAGTACTGTT
GTAATTCATTAAGCATTCTGCCGACATGGAAGCCATCACAGACGGCATGA
TGAACCTGAATCGCCAGCGGCATCAGCACCTTGTCGCCTTGCGTATAATA
TTTGCCCATGGTGAAAACGGGGCGAAGAAGTTGTCCATATTGGCCACGT
TTAAATCAAACTGGTGAAACTCACCAGGGATTGGCTGAGACGAAAAAC
ATATTCTCAATAAACCCCTTTAGGGAAATAGGCCAGGTTTTACCGTAACA
CGCCACATCTTGCGAATATATGTGTAGAACTGCCGGAATCGTCGTGGT
ATTCACTCCAGAGCGATGAAAACGTTTCAGTTTGCTCATGGAAAACGGTG
TAACAAGGGTGAACACTATCCCATATCACCAGCTCACCGTCTTTCATTGC
CATACG

DNA Strider™ 1.2 ### Monday, April 13, 1998 4:17:24 PM
PRM2 -> List

DNA sequence 3190 b.p. GCGCCCAATAG ... GGAACGGGAGA linear

Tuesday, February 25, 1992 3:02:24 AM

Read from ASCII/Citi2 file "puc18"

{ 431/432 is attTn7 insertion site R->L }

FIG. 10B

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1	GCGCCCAATA	CGAAACCGC	CTCTCCCGC	CGGTGCGCG	ATTCAATTAAT	GCGAGCTGCA	CGACAGGTTT	CCCAGCTGA	AAGCGGCAG	TGAGCGCAAC	100
101	GCAATTAATG	TGAGTAGCT	CACCTAATAG	GCACCCGAG	CTTTACACTT	TATGCTTCGG	CGTCGTATGT	TGCTGGAAT	TGTGAGCGG	TACATATTC	200
201	ACACAGGAAA	CAGTATGAC	CATGATTAG	AATTCAGCT	CGGTACCGG	GATCTCTCTA	GAGTCGAGT	CCCGCATCG	GAAGAGGTGA	TTGCACCGAT	300
301	CTTCTACACC	GTCCGCTGC	AGCTGCTGC	TTACCATGC	CGCTGATCA	AAGGCACGA	CGTTCACAG	CCGCTAAC	TGGCAAAATC	GGTTACGGTT	400
401	GAGTAATAA	TGGATGCCCT	CGGTAAGCGG	GGCAATTTTC	TTCTGTTAT	GTTTWTATC	AAACATCTCG	CCACTCCAT	GTGACAAAC	GTCATCTCG	500
501	GCTACTTTTT	CTCTGTACA	GAATGAAAAT	TTCTGTGAT	CTCTTGCTTA	TAAAGTTTG	TAAATGACTG	AATATCAACG	CTTATTTAA	TCAGACTGAA	600
601	GACTTATCTC	TCTCTGTCT	AAAACGTCA	TATTCCTTAC	ATATAACTGT	CACCTGTTTG	TCTTATTTTG	CTTGTCTAG	CCAAACAA	ATGCTTTATG	700
701	ATCTCTCCA	GGAGACATTA	TGAAGTTAT	GCCTACACC	GTGCGCACTG	TGTGCGCGC	GACTTATCG	ACCTGCAGC	ATCAAGCTT	GGCAGTGGC	800
801	CTCGGTTTAC	AACCTGTGA	CTGGGAAAC	CCTGGGTTA	CCCACTTAA	TGCGCTTGA	GCATATCCC	CTTTGCCAG	CTGGGTAAT	AGCGAAGGG	900
901	CGCGCACGA	TGCGCTTCC	CAACGTTGC	GCAGCTGAA	TGGGCAATGG	CGCTGTATG	GGTATTTCT	CTTTACGAT	CTGTSCGTA	TTTCACACCG	1000
1001	CATATGTGC	ACTCTCAGTA	CAATCTGCT	TGATGCGGA	TAGTTAGCC	AGCCCGGAC	TTTTACACG	CCGCTGAG	CGCTGAGG	GGCTGTCTG	1100
1101	CTCCCGGAT	CCGTTACAG	CAACGCTGC	ACCGTCCG	GGAGCTGAT	GTGTCAGAG	TTTTACACTT	CATCACGAA	ACGCGCGGA	CGAAAGGGC	1200
1201	TGCTGATAG	CCATTTTGA	TAGTTAATG	TCATGATAT	AAATGTTTCT	TAGACGTGAG	GTGGCACTTT	TCGGGAAAT	GTGCGCGGA	CCCTTATTTG	1300
1301	TTTATTTTTC	TAAATACAT	CAATATGTA	TCCGCTCATG	AGACAATAAC	CCTGATAAAT	GGTTCAATA	TATGAAANA	GGAGAGTAT	GAGTATTCAA	1400
1401	CATTTCGCTG	TGCGCTTAT	TCCCTTTTTC	GCGGANTTT	GCCTTCTCT	TTTGTCTCAC	CCAGAAACG	TGTTGAAAGT	AAAAGATGCT	GAAGATCAGT	1500
1501	TGGTGTGACG	AGTGGGTTAC	ATCGAATGG	ATCTCAACG	CGGTAAGATC	CTTGAGAGTT	TTGCGCCCGA	AGAACGTTT	CCAATGATGA	GCACTTTAA	1600
1601	AGTCTGCTGA	TCTGGGCGG	TATATCCCG	TATGACGCC	GGGCAAGAGC	AACTCGGTG	CCGCTATAC	TATTTCTAGA	ATGACTTGGT	TGAGTACTCA	1700
1701	CCAGTCAAG	AAAGCACT	TACGANTGC	ATGACAGTAA	GAGAAATATG	CAGTGTCTGC	ATAACCAATC	GTGATAACAC	TGCGGCCAAC	TTACTTCTGA	1800
1801	CAACGATCG	AGAACCGAG	GAGTAACCG	CTTTTGTGA	CAACATGGGG	GATCATGTAA	CTGCGCTTGA	TCGTTGGGA	CCGAGCTGA	ATGAAGCCAT	1900
1901	ACCAACGAC	GAGGTGACA	CCACGATGC	TGTAGCAATG	GCAACACAGT	TGCGCAAACT	ATTAACCTGC	GAATACTTGA	CTCTAGCTTC	CCGGCAACAA	2000
2001	TAAATAGACT	GGATGGAGC	GGATAAAGTT	GCAGAACCC	TTCTGCGCTC	GGCCCTTCG	GCTGGCTGCT	TTATTTGCTGA	TAAATCTGGA	CCCGGTGAGC	2100
2101	GTGGTCTCG	CGTATCATTT	GCACACTGG	GGCCAGATGG	TAAGCCCTCC	CGTATCTAG	TTATCTACCA	GACGGGAGT	CAGCAACTA	TGGATGAACG	2200
2201	AAATAGACAG	ATCGCTGAGA	TAGGTGCCCT	ACTGATTAAG	CATTTGTAAC	CAAAATCCCT	TAACTGAGT	TTTCTGTCCA	CTGAGCTGA	GACCCGTAG	2300
2301	TTTAAATTA	AAAGATCTA	GGTGAAGATC	CTTTTGTATA	ATCTATGAC	TCCTTGCAAA	CAAAAACAC	ACCGTACCA	CCGCTGGTTT	GTTTGCCGGA	2400
2401	AAAAGATCAA	AGGATCTTCT	TGAGATCCCT	TTTTTCTGCG	CGTAATCTGC	AGATACAAA	TACTGTCTTT	CTAGTGTAGC	CGTAGTTAGG	CCACACTTC	2500
2501	TCAAGACTGA	CCAACCTTTT	TTCCGAAGGT	AACGTGCTTC	AGCAGAGCGC	AGATACAAA	TACTGTCTTT	CTAGTGTAGC	CGTAGTTAGG	CCACACTTC	2600
2601	AAGAATCTG	TACATACCTC	GCTTGTCTAA	TCCTGTATAC	GGCTGTATAC	TGCGCTGCT	CCAGGTGGG	ATAAGTCGTC	TTTACCCGG	TTGACTCAA	2700
2701	GACGATGTT	ACCGGATGAG	CGGCGTGAAC	CGGCGTTCG	TCGCGCTGAG	TGCACACAG	CCAGCTTGA	CAGAACGAC	TACACCGAAC	TTGACTCAA	2800
2801	ACAGCTGAG	CTATGAGAA	GCGCCACGCT	TCCCGAAGG	AGAAAGCGG	ACAGGATCC	GGTAAGCGC	AGGTCGGA	CACAGAGCG	CACGAGGAG	2900
2901	CTTCCAGGG	GAAACGCTG	GTATCTTTAT	AGTCTGTGCG	GGTTTGCCCA	CCTCTGACTT	GAGCGTGCAT	TTTTGTGATG	CTGTCAAGG	GGCGGAGCC	3000
3001	TATGGAATA	CGCCAGAAC	GCGGCTTTT	TACGTTTCT	GGCTTTTGC	TGGCTTTTTC	CTCACATGTT	CTTCTCTGCG	TTATCCCTTG	ATTCTGTGGA	3100
3101	TAAACCTATT	ACCGCTTTG	AGTGAGCTGA	TACGCTCGC	CGCAGCGGAA	CGACCGAGCG	CAGCGAGTCA	GTGAGCGAGG	AACGGGAAGA		3190

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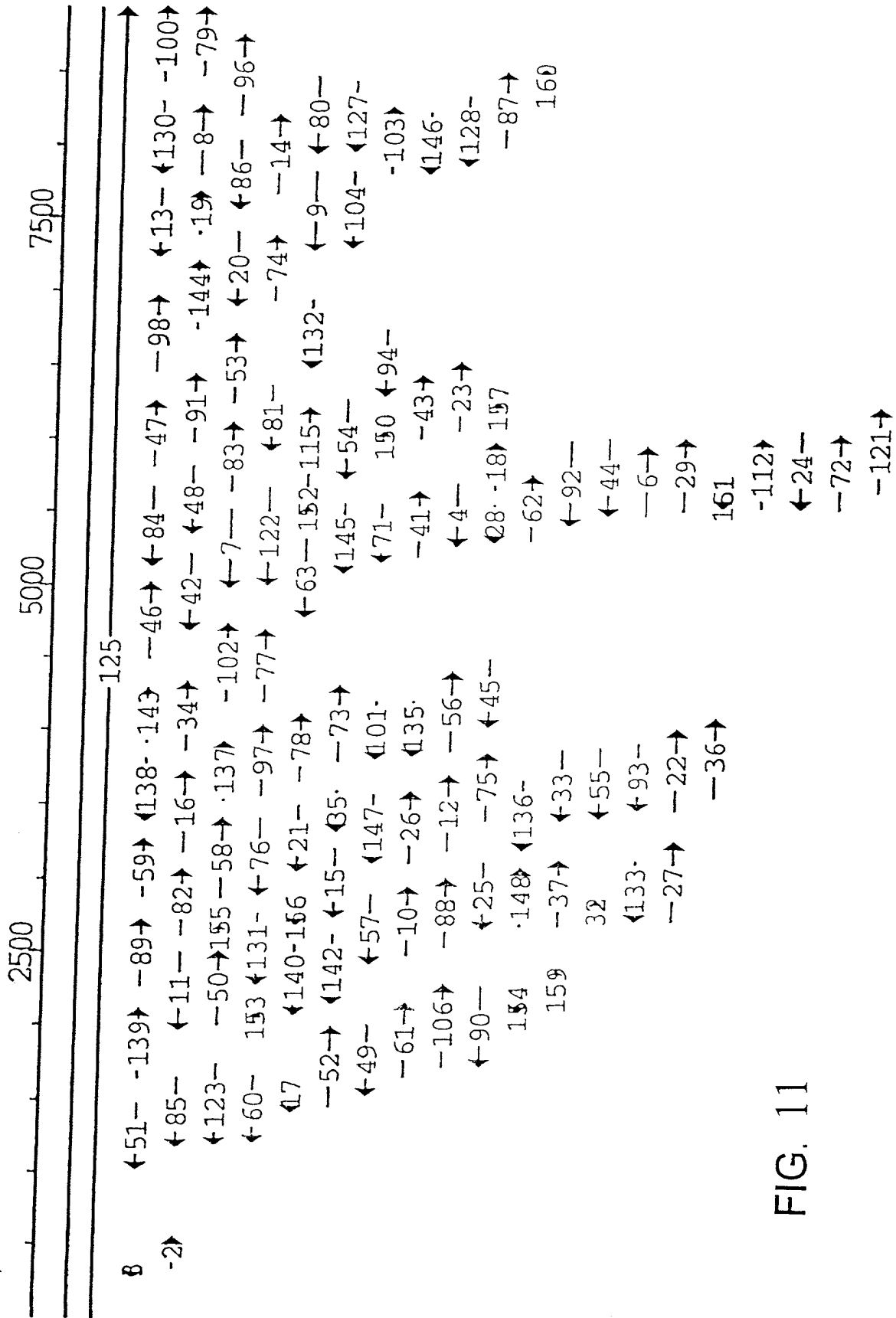
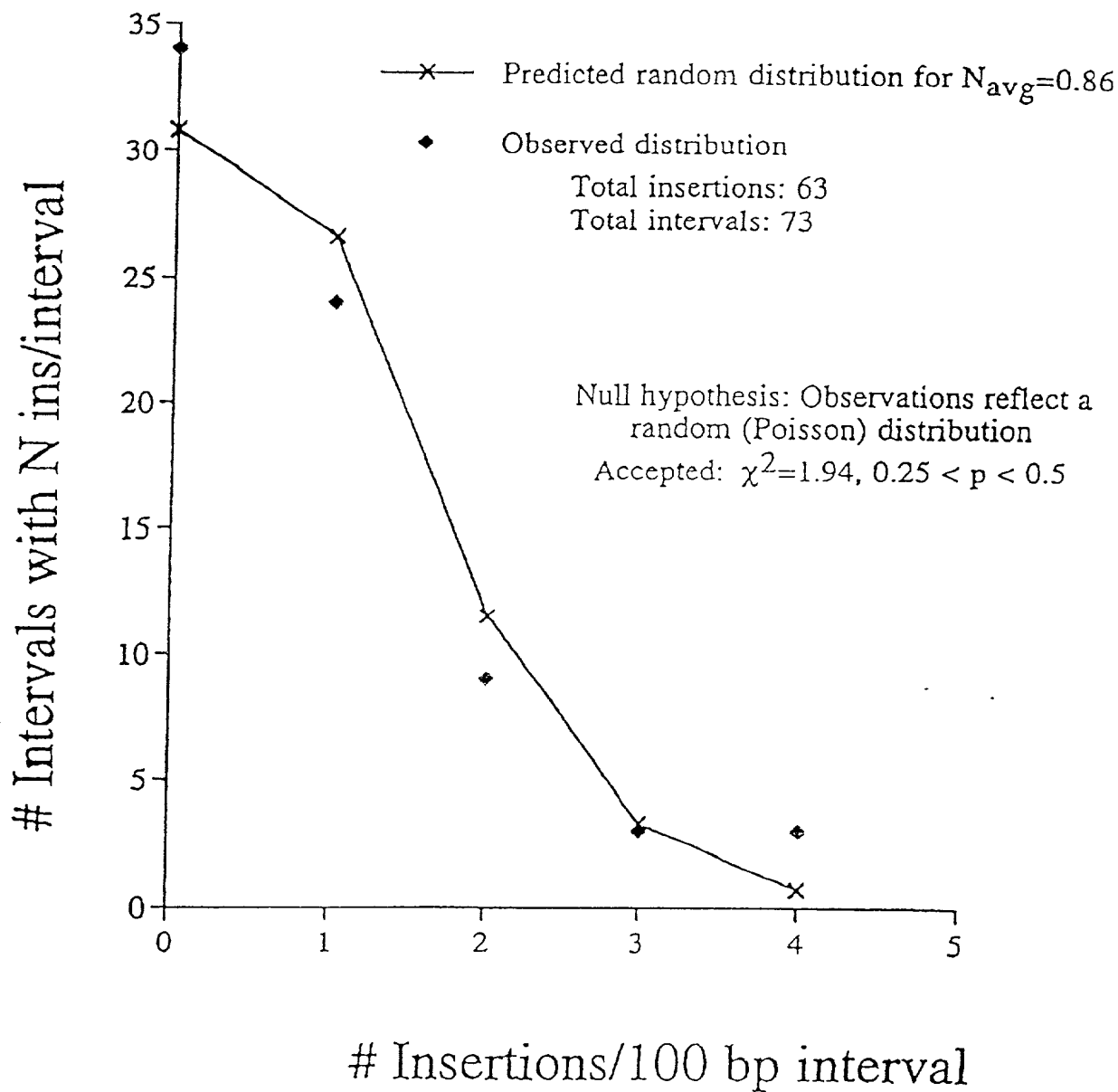


FIG. 11

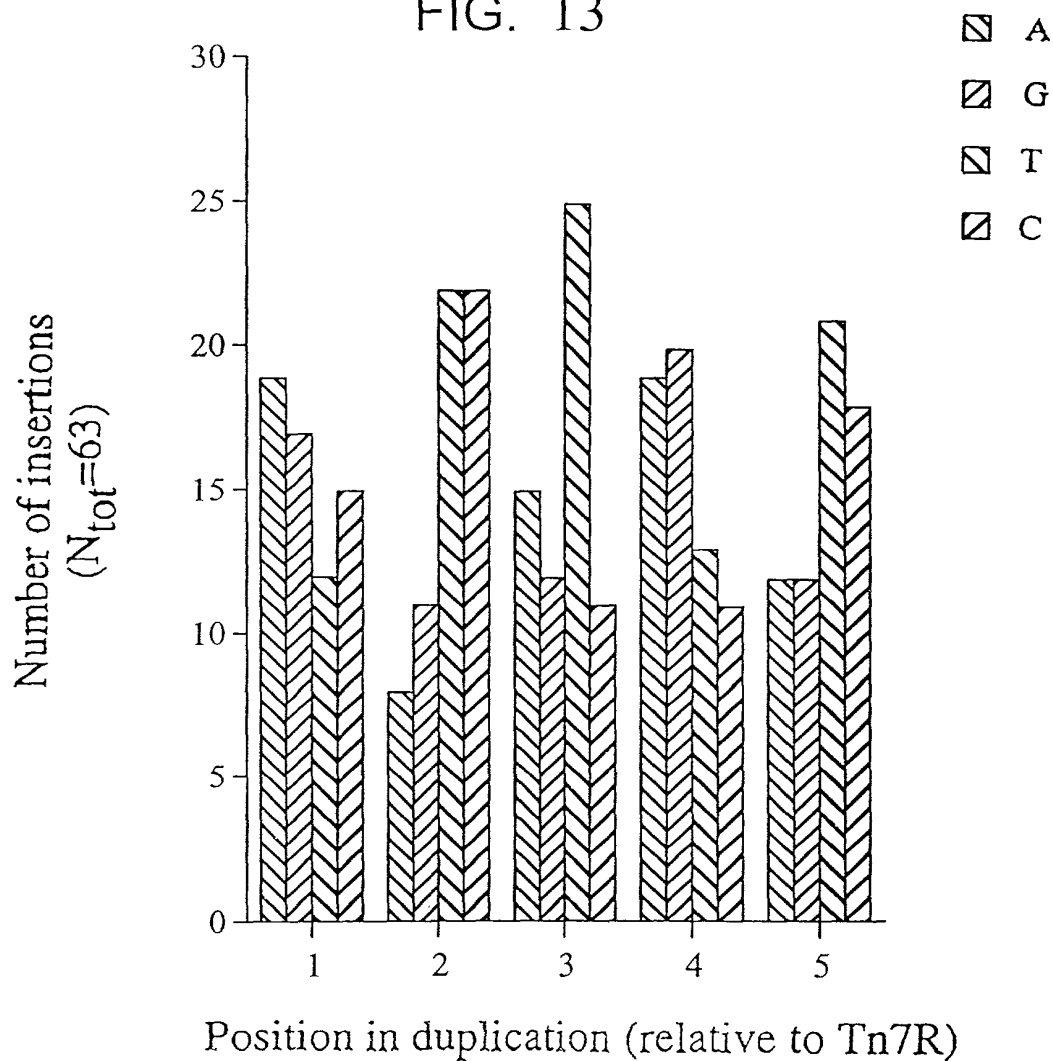
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FIG. 12



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FIG. 13



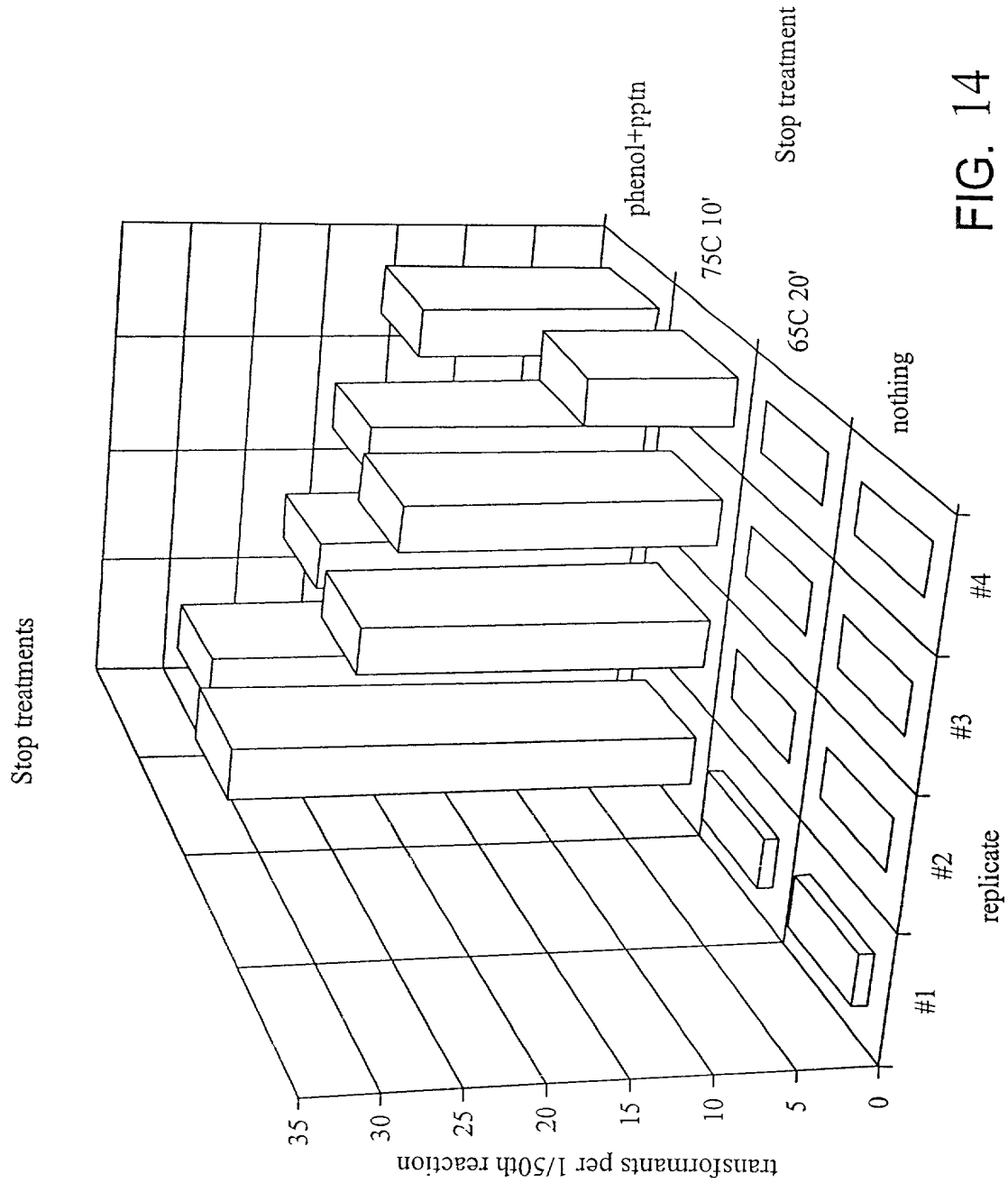


FIG. 14

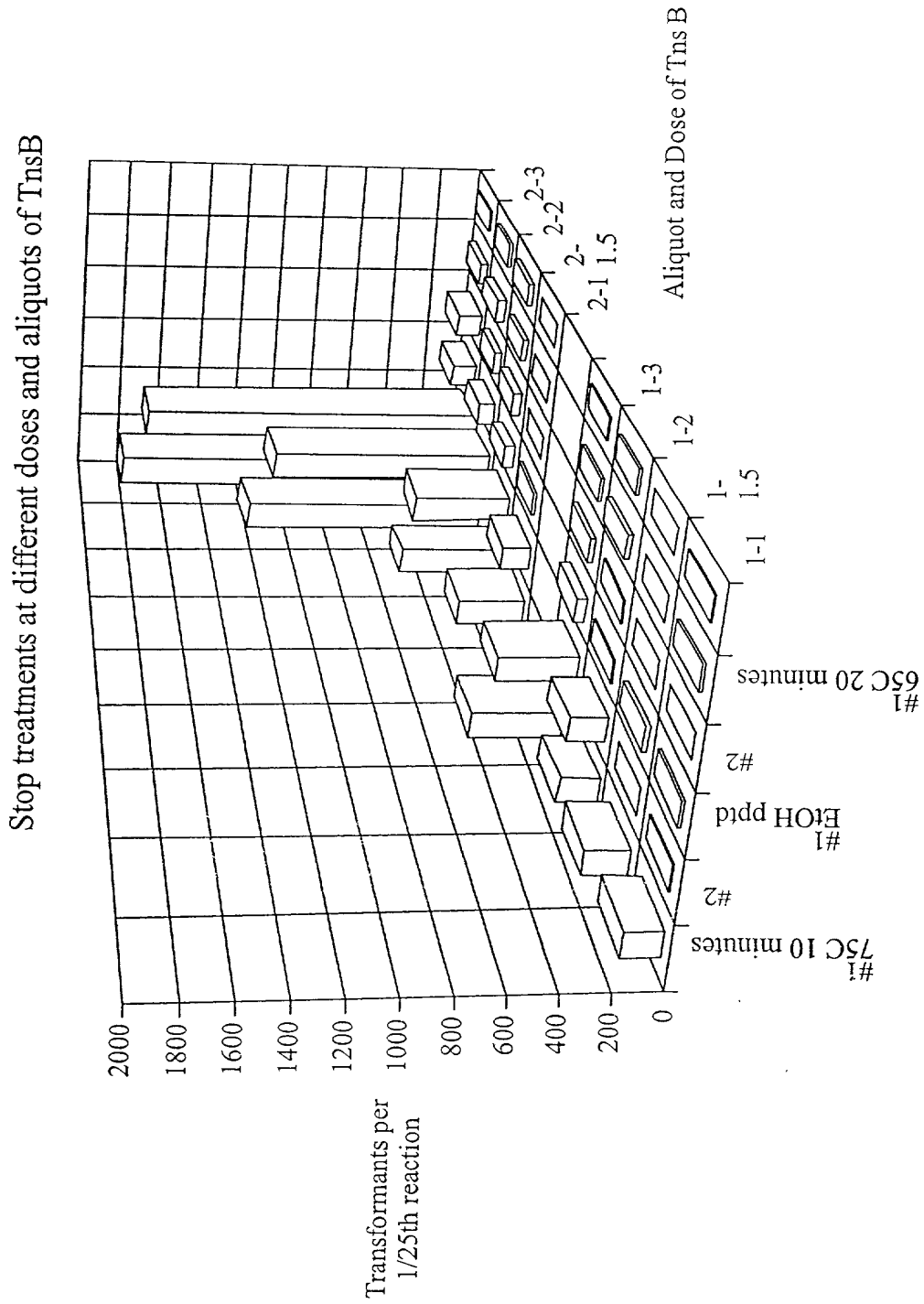


FIG. 15

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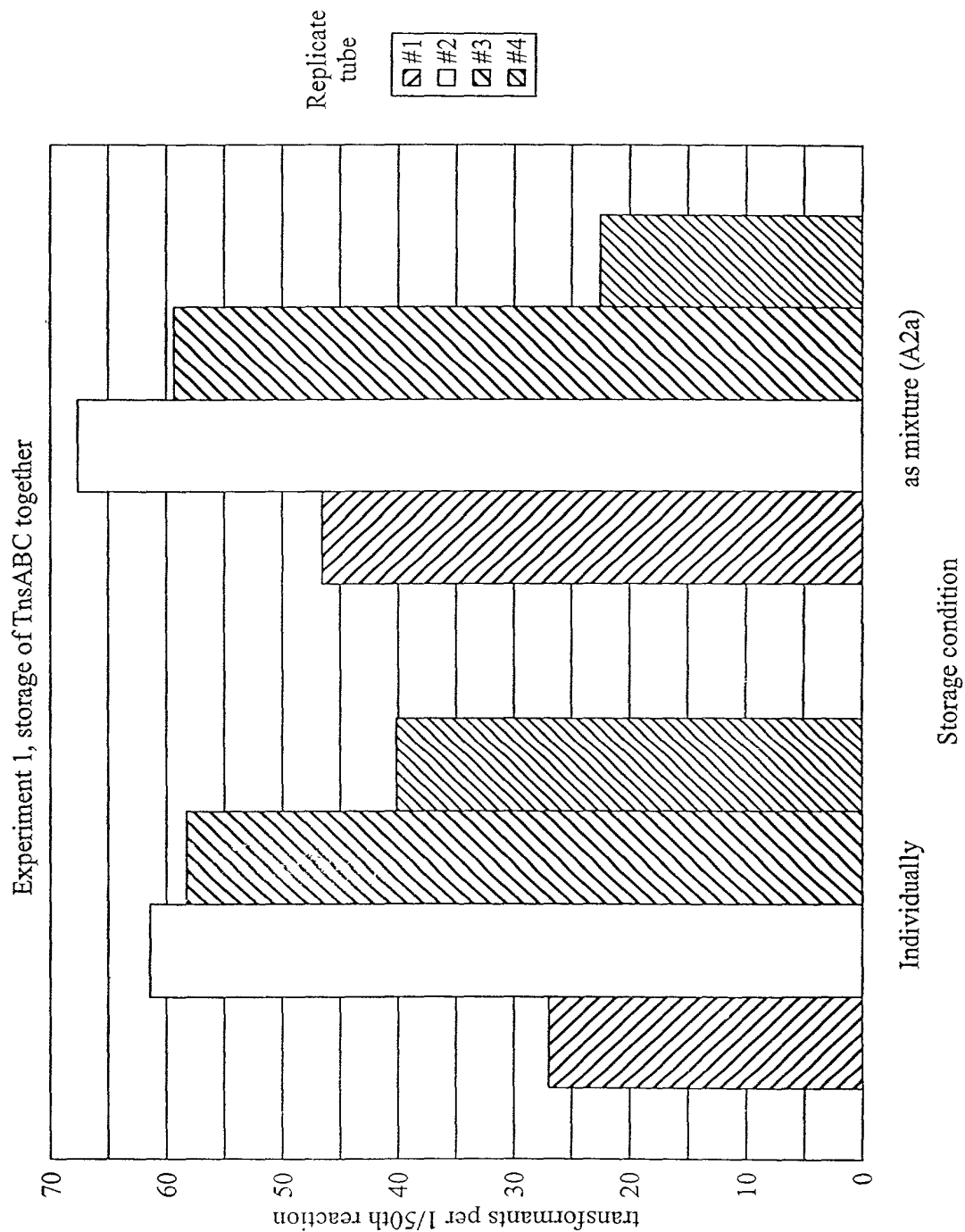


FIG. 16

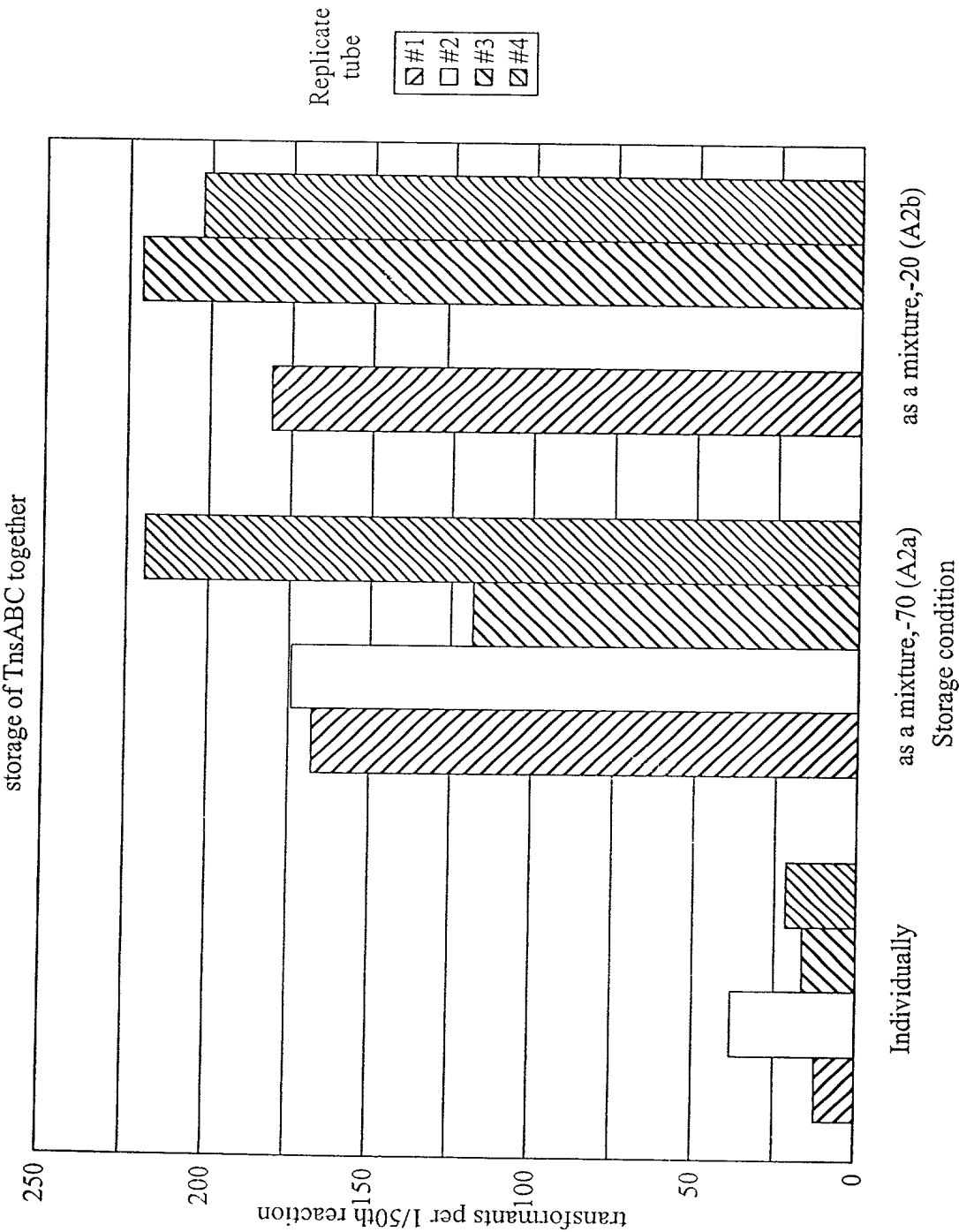


FIG. 17

DNA Strider™ 1.2 ### Monday, April 13, 1998 4:15:21 PM

tns gene C -> List

DNA sequence 1670 b.p. ATGAGTGTCTACC ... AGCAGGTTAGCC linear

	10	20	30	40	50	60	70	80	90	100
1	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT
101	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC	TGAATAGTGC
201	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT	TGACTATTTT
301	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC	TTACAAAAGC
401	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG	TAATTGGTGG
501	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG
601	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG
701	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT	TTACAGCATTT
801	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA	TACCCCTAAA
901	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG
1001	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT	ATGAGTGTCT
1101	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG	CGTGTATTTG
1201	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG	TCTGATCTAG
1301	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC	AGTTAGATAC
1401	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG	TCCAACCATG
1501	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG	AAGGTTTTCG
1601	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG	TGCATGACCG

nucleotide sequence TnsC

FIG. 18A

DNA Strider™ 1.2 ### Monday, April 13, 1998 4:16:55 PM

Tns protein C -> List

Protein sequence 556 a.a. MSATRIQAVYRD ... VDMASLFRQAGZ

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1	MSATRIQAVY	RDTGVEAYRD	NPFI	EALPPL	QESVNSAASL	KSSLQ	LTSSD	LQKSR	VIRAH	TICRIPDDYF	QPLGTHLLLS	ERISV	MIRGG	YVGRN	PKTGD	100								
101	LQKHLQNGYE	KVQNGELET	RFEEARST	TAQ	SLLIGCSGS	GKTTSL	HRIL	ATYPQ	VIVHR	ELNVEQV	WYL	KIDCS	HNGSL	KEICLN	FFRA	LDRALGS	NYE	200						
201	RRYGLKRHCI	EIMALMSQI	ANAHALGL	LV	IDEIQLSRS	RS	SGSQEMLN	FFVTM	VNIIG	VPVMLIG	TPK	AREIFE	ADLR	SARRG	AGFGA	IFWDPIQ	QTQ	300						
301	RGKPIQEWIA	FTDNLQQL	LQKDAL	LS	EVRD	VWYELS	QGVMDIV	VKL	FVLAQ	LALA	LGNERIT	AGL	LRQVYQ	DELK	PVHPM	LEALR	SGIPER	IARY	400					
401	SDLVVP	FEIDK	ELIQQL	LDIA	AIQEQ	TPPEK	ALQELDT	EDQ	RHLV	MLKED	YDSSL	LIP	TI	KKAF	SQNP	TM	TRQKL	PLVL	QWIME	GETV	SELEK	PSKSK	500	
501	KVSAIKV	VVKP	SDWESL	PD	TD	LRYTYS	QRQP	EKTM	HERLKG	KGVIV	D	MASL	FRQAGZ											556
	10	20	30	40	50	60	70	80	90	100														

amino acid sequence TnsC

FIG. 18B